



PATENT
P56687

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

ELMAR MOCK *et al.*

U.S. Serial No.: 10/070,137 Examiner: Jeanne M. GOODWIN
International Application No.: PCT/CH00/00464

U.S. Filing Date: 4 March 2002 Art Unit: 2841
I.A. Filing date: 31 August 2000

For: MECHANICALLY REGULATED TIMEPIECE

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O.Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §1.56, and §§1.97 and 1.98 as amended, Applicant cites, describes, and provides copies of the following art references:

OTHER DOCUMENTS:

- A Web page "Tourbillon-Compensating for gravity" retrieved from <<http://www.blancpain.com/e/complications/tourbillon/>> on 5 April 2006.
- A Web page "Tourbillon" retrieved from <<http://www.en.wikipedia.org/wiki/Tourbillon>> on 5 April 2006.
- A Web page "The Tourbillon: The Heart of Precision" written by Patrizzi, retrieved from <<http://www.antiquorum.com/html/vox/vox2004/tourbillon.htm>> pp 1-4 on 5 April 2006.
- A Web page "Detailed Descriptions of the Added Complication" retrieved from <http://www.tp178.com/jd/uber-comp/artikel_4_4.html> on 6 April 2006.
- A Web page "Movement TT791 'Tourbillon'" retrieved from

<http://www.technotime.com/mouv/mecanique/tt791_e.html> on 6 April 2006.

- A pdf format "TT791.54" retrieved through a Web page <http://www.technotime.com/mouv/mecanique/tt791_e.html> on 6 April 2006.
- A Web page "The Enigma" written by Perez, retrieved from <<http://www.timezone.com/library/cjrm/cjrm0008>> on 6 April 2006.
- A Web page "Biver and Piguet: The Lost Works" retrieved from <<http://www.timezone.com/library/cjrm/cjrm0029>> on 6 April 2006.
- A Web page "Omega Center Tourbillon ref. 5910.30.01, cal. 1170" retrieved from <<http://www.thepurists.com/jpg/tourbillon/omegacentertourbillon.html>> on 6 April 2006.

DISCUSSION

Blancpain.com discusses, describes and illustrates one version of a "flying tourbillon".

Blancpain.com further discloses that when a watch's escapement is in a vertical position, the earth's gravity either accelerates or slows the balance movement, causing a rate gain or loss. Blancpain's self-winding calibre 25 features a one-week power reserve and a flying Tourbillon whose carriage is mounted on one side only, with no supporting bar, allowing better visibility through the cutout window at 12 o'clock.

Wikipedia.org discusses the mark of Anthony Randall on "two and three axis tourbillon movements". Wikipedio.org further provides the definition and fundamental mechanism of tourbillon. The tourbillon is considered to be the most complex of watch complications and is valued for its engineering and design principles. In the late 20th century, the first research into multi-axis tourbillon movements was done by British clockmakers, eventually producing two- and three-axis tourbillon movements.

Antiquorum.com discusses and illustrates another version of "flying tourbillon" invented by Walter Prendel in 1927-1928, and further discloses that there are several types of tourbillon regulators, some with a rotation of one-minute, some four-minute, some six, etc. Potter constructed one with a rotation of 5 seconds. Whatever the time of rotation, the tourbillon mechanism is an integral part of the motion train. By contrast, in the Karussel, an analogous system invented by Bonnicksen 99 years after Breguet's invention, the rotation plate (equivalent to the carriage in the tourbillon) is not an integral part of the motion train, but is driven by gears. It therefore transmits no force to any other wheel. In practical terms, the tourbillon system only functions if there is contact with the intermediate wheel, the Karussel system continues to function even if there is no transmission to the rotating plate.

Tp178.com discusses and illustrates an overview of what the mechanism of tourbillon does. Tp178.com further discloses that to place the Tourbillon in the movement, the cocks for the balance and escape wheel and the bridge for the pallet lever had to be removed and extra space for the Tourbillon cage and its intermediate wheels had to be milled into the movement's base plate. It bears repeating that the pressure on Mr. Gerber at this stage, where irreversible alterations are made to the main plate of the movement, was immense. To account for the increased need of power for the Tourbillon, two further modifications had to be applied: A stronger mainspring (which is shorter and has a thicker blade-strength to optimally use the barrel space: 1/3 barrel, 1/3 barrel core, 1/3 free) and two additional jewel bearings had to be inserted with the help of an additionally added Tourbillon bridge on the dial side of the movement that also supports the mainspring barrel.

Technotime.com illustrates movement of TT791 tourbillon.

Technotime.com discusses and illustrates technical specifications of TT791.54.

Timezone.com discusses the development of tourbillon starting from the 18th century. Timezone.com further discloses that due to extreme difficulty of manufacturing chronometer tourbillons, it is thought that their entire production over the last two centuries numbers only in the few hundreds. The "flying" type of tourbillon regulator was invented in Saxony in the 1920s by Alfred Helwig. While tourbillon carriages are usually pivot mounted on one side and bridged to the other, or bridged on both sides, the flying tourbillon's carriage is pivot mounted on one side with no supporting bridge -- akin to a "floating" mainspring barrel.

Timezone.com discusses "Six Masterpieces" including tourbillon as the traditional art of mechanical watch. Timezone.com further discloses that the "flying" type of tourbillon which is usually only found in limited editions is a feature of the regular production calibre 23, with the unique refinement of an eccentric, free-sprung, screwed balance wheel. Isochronism is optimized by the ample eight-day power reserve, which is achieved with just a single mainspring barrel.

Thepurists.com discusses and illustrates Omega cal. 1170 introduced in 1994. Thepurists.com further discloses that the tourbillon system is integrated in a small rotating mobile case, which eliminates performance errors of mechanical watches in vertical position.

Pursuant to 37 CFR §1.97(d), the undersigned attorney hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application not more than three (3) months prior to the filing of the statement.

The citation of the foregoing references is not intended to constitute an assertion that other or more relevant art does not exist. Accordingly, the Examiner is requested to make a wide-ranging and thorough search of the relevant art.

No fee is incurred by this Statement.

Respectfully submitted,



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GROUP 2841

U.S. PATENT DOCUMENTS

EXAMINER	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE

FOREIGN PATENT DOCUMENTS

TRANSLATION

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

	A Web page "Tourbillon-Compensating for gravity" retrieved from < http://www.blancpain.com/e/complications/tourbillon/ > on 5 April 2006
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EXAMINER:

DATE CONSIDERED:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP §609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.